

ASU geosciences professor named Guggenheim Fellow

S.-H. Dan Shim's interdisciplinary research spans earth science and astrophysics

By Kim Baptista, ASU News
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[S.-H. Dan Shim](#), a professor of geosciences at Arizona State University's [School of Earth and Space Exploration](#), has been [named a 2026 Guggenheim Fellow](#) by the John Simon Guggenheim Memorial Foundation, recognizing his interdisciplinary work bridging earth science and astrophysics.

Shim is among 223 fellows selected this year across 55 disciplines, chosen from a pool of nearly 5,000 applicants through a rigorous application and peer review process. The fellowship recognizes both exceptional prior career achievement and outstanding promise for future contributions.

“Dan Shim’s recognition as a Guggenheim Fellow reflects the strength of ASU’s academic enterprise and our commitment to research that advances knowledge across disciplines,” said Nancy Gonzales, ASU executive vice president and university provost.

“His work connecting earth science and astrophysics is expanding our understanding of planetary systems and the conditions that shape them, with implications for how we study our own planet and others beyond it. This honor underscores the impact of faculty who are not only leaders in their fields, but also contributors to a collaborative environment that drives discovery and learning for our students.”

Shim’s experiments recreate a broad range of planetary conditions in the laboratory, spanning different pressures, temperatures and compositions. Using powerful X-rays and lasers from large experimental facilities, he probes how materials behave under these extreme conditions.

These laboratory insights help explain how planets evolve and build their structure. He then works closely with researchers across earth science, planetary science and astrophysics to connect these findings with observations of both Earth and distant worlds.

“It is particularly exciting because I have been awarded for astronomy and astrophysics, which is not my original discipline of earth science,” Shim said. “SESE and ASU have enabled me to

explore beyond traditional disciplinary boundaries.

“With the rapid pace of exoplanet discoveries in astrophysics, earth science plays a crucial role in linking these findings to the geology and habitability of distant worlds. I am grateful that the Guggenheim Foundation has recognized the significance of the new research approaches bridging earth science and astrophysics that my group has developed over the years at SESE and ASU.”

Each Guggenheim Fellow receives a monetary stipend to pursue independent work “under the freest possible conditions.” The fellowship program, established in 1925 by Sen. Simon Guggenheim, has supported thousands of scholars, scientists and artists over its century-long history.

“This fellowship will elevate collaboration between earth science and astrophysics to a new level. It will support a more integrated approach that connects experiments, modeling and the interpretation of observations,” said Shim, who will focus on how planetary interiors and atmospheres interact, including how geological processes within exoplanets may shape their atmospheres.

“This work will improve how scientists interpret data from JWST (James Webb Space Telescope) and next-generation ground-based observatories, helping to reveal new insights into distant worlds.”

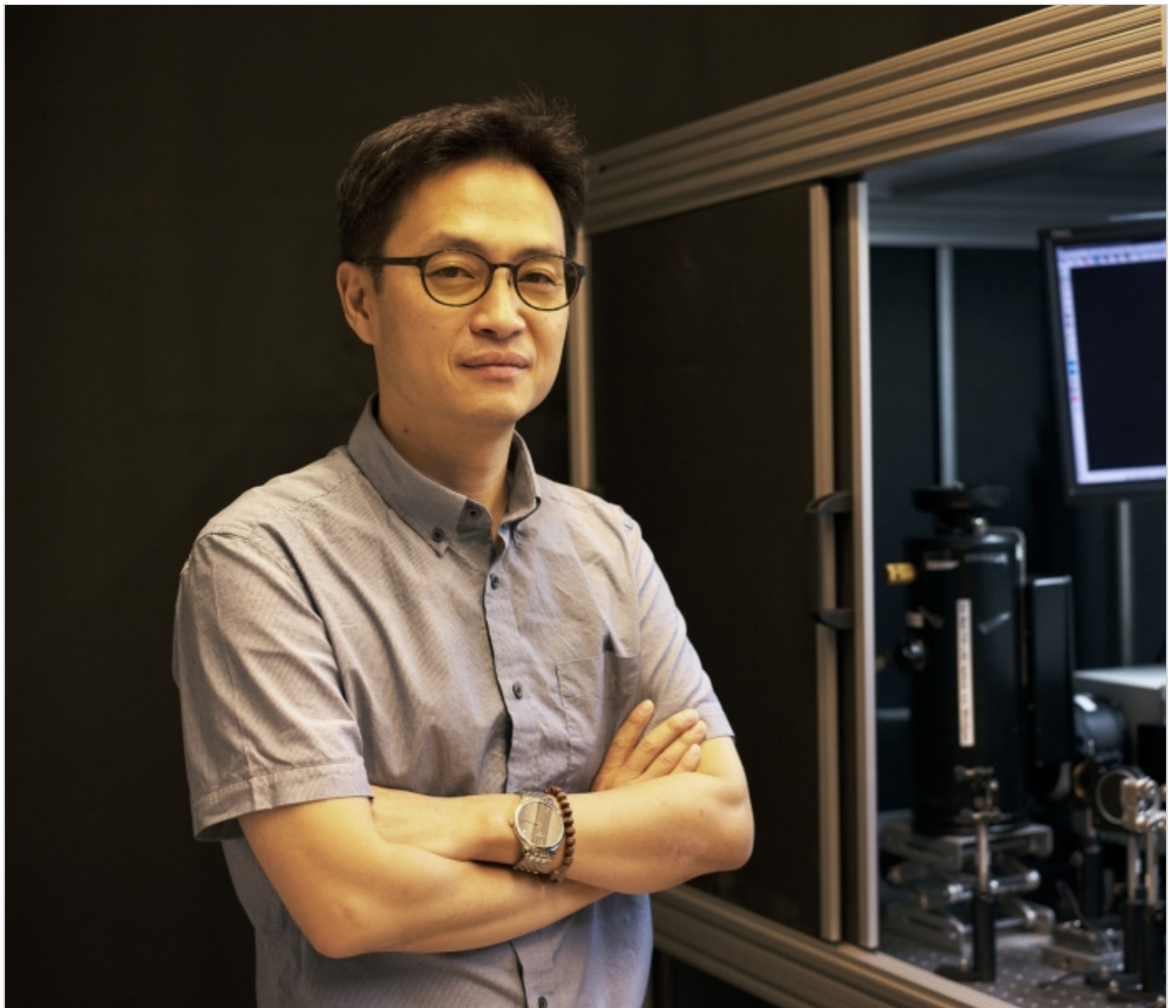
[Ramon Arrowsmith](#), interim director of the School of Earth and Space Exploration, praised the news of Shim's fellowship.

“Professor Shim is most deserving of this honor. On top of his innovative and practical teaching contributions, he is a world-leading expert in the exploration of the material properties of planets, including our own. He is an exemplar for the School of Earth and Space Exploration,” Arrowsmith said.

With this fellowship, Shim joins over 40 ASU faculty members who have received this prestigious honor, further strengthening the university’s commitment to innovative research.

This story originally appeared on [ASU News](#).

Main image



ASU School of Earth and Space Exploration Professor Dan (Sang-Heon) Shim's experiments recreate a broad range of planetary conditions in the laboratory, spanning different pressures, temperatures and compositions. These laboratory insights help explain how planets evolve. ASU photo